

We claim:

- 5 1. An alkoxyated, condensed basic amino acid-containing polymer comprising the addition products of alkylene oxides with
- homocondensates of basic amino acids,
  - 10 - condensates of mixtures of two or more basic amino acids and
  - cocondensates of basic amino acids and cocondensable compounds.
- 15 2. An alkoxyated, condensed basic amino acid-containing polymer as claimed in claim 1, wherein the basic amino acids are selected from the group consisting of lysine, arginine, ornithine and tryptophan.
- 20 3. An alkoxyated, condensed basic amino acid-containing polymer as claimed in claim 1, wherein the basic amino acid is lysine.
- 25 4. An alkoxyated, condensed basic amino acid-containing polymer as claimed in claim 1, wherein the cocondensable compounds are selected from the group consisting of compounds containing carboxylic acid groups, carboxylic anhydrides, diketenes, amines, lactams, alcohols, alkoxyated alcohols and alkoxyated amines.
- 30 5. An alkoxyated, condensed basic amino acid-containing polymer as claimed in claim 1, wherein the condensed basic amino acid-containing polymers are obtainable by condensing
- 35 (a) lysine alone or together with
- (b) at least one compound selected from the group consisting of palmitic acid, stearic acid, lauric acid, octanoic acid, propionic acid, acetic acid, 2-ethylhexanoic acid, 40 adipic acid, succinic acid, citric acid and mixtures thereof.
- 45 6. An alkoxyated, condensed basic amino acid-containing polymer as claimed in claim 1, wherein the condensed basic amino acid-containing polymer is obtainable by condensing

- (a) lysine together with
- (b) at least one compound selected from the group consisting of 1,6-hexandiamine, octylamine, aminocaproic acid, aminolauric acid,  $\epsilon$ -caprolactam, laurolactam, and  $C_{14}$ -/ $C_{22}$ -alkyldiketenes.
7. An alkoxyated, condensed basic amino acid-containing polymer as claimed in claim 1, wherein the condensed basic amino acid-containing polymer has a weight average molecular weight of from 300 to 1,000,000.
8. An alkoxyated, condensed basic amino acid-containing polymer as claimed in claim 1, comprising units of alkylene oxides selected from the group consisting of  $C_2$ - to  $C_{30}$ -alkylene oxides and styrene oxide.
9. An alkoxyated, condensed basic amino acid-containing polymer as claimed in claim 1, comprising units of alkylene oxides selected from the group consisting of ethylene oxide, propylene oxide, butylene oxides and mixtures thereof.
10. An alkoxyated, condensed basic amino acid-containing polymer as claimed in claim 1, wherein the condensed basic amino acid-containing polymer contains per mole of NH bonds of primary and secondary amino groups 0.1 to 100 mol of an alkylene oxide in condensed form.
11. An alkoxyated, condensed basic amino acid-containing polymer as claimed in claim 1, wherein the condensed basic amino acid-containing polymer contains per mole of NH bonds of primary and secondary amino groups 0.5 to 20 mol of an alkylene oxide in condensed form.
12. An alkoxyated, condensed basic amino acid-containing polymer as claimed in claim 1, comprising units of alkylene oxides selected from the group consisting of ethylene oxide, propylene oxide and mixtures thereof.
13. An alkoxyated, condensed amino acid-containing polymer as claimed in claim 6, wherein the molar ratio of (a) to (b) is from 100 : 1 to 1 : 10.
14. An alkoxyated, condensed amino acid-containing polymer as claimed in claim 6, wherein the molar ratio of (a) to (b) is greater than 1.

Sub A3 15. An alkoxyated, condensed basic amino acid-containing polymer as claimed in claim 1, which has been modified by reacting it with an alkylating agent selected from the group consisting of alkyl halides, benzyl halides and dialkyl sulfates.

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16. A process for the production of alkoxyated, condensed basic amino acid-containing polymers, which comprises reacting

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- homocondensates of basic amino acids,

- condensates of mixtures of two or more basic amino acids and/or

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- cocondensates of basic amino acids and cocondensable compounds

with at least one alkylene oxide selected from the group consisting of C<sub>2</sub>- to C<sub>30</sub>-alkylene oxides and styrene oxide.

20 17. A process as claimed in claim 16, wherein the alkylene oxides are selected from the group consisting of ethylene oxide, propylene oxide and butylene oxide.

18. A process as claimed in claim 16, wherein the alkylene oxide is ethylene oxide.

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Sub A3 19. A process as claimed in claim 16, wherein the polymers are alkylated with an alkylating agent selected from the group consisting of alkyl halides, benzyl halides and dialkyl sulfates.

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20. A process as claimed in claim 16, wherein the polymers are alkylated with a compound selected from the group consisting of benzyl chloride, methyl chloride, ethyl chloride, lauryl chloride, palmityl chloride, stearyl chloride, methyl iodide, dimethyl sulfate and diethyl sulfate.

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Alkoxyated, condensed basic amino acid-containing polymers and their production

## 5 Abstract

Alkoxyated, condensed basic amino acid-containing polymers comprising the addition products of alkylene oxides with

- 10 - homocondensates of basic amino acids,
- condensates of mixtures of two or more basic amino acids and
  - cocondensates of basic amino acids and cocondensable
- 15 compounds,

and a process for the production of alkoxyated, condensed basic amino acid-containing polymers which comprises reacting

- 20 - homocondensates of basic amino acids,
- condensates of mixtures of two or more basic amino acids and
  - cocondensates of basic amino acids and cocondensable
- 25 compounds

with at least one alkylene oxide selected from the group consisting of C<sub>2</sub>- to C<sub>30</sub>-alkylene oxides and styrene oxide.

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